

Georgia Department of Natural Resources

2 Martin Luther King, Jr. Dr., S.E., Suite 1462 East, Atlanta, Georgia 30334

Reply To:

Response and Remediation Program
2 Martin Luther King, Jr. Drive, S.E.
Suite 1462, East Tower
Atlanta, Georgia 30334-9000
Office 404-657-8600 Fax 404-657-0807

Mark Williams, Commissioner
Environmental Protection Division
Judson H. Turner, Director
Land Protection Branch
Keith M. Bentley, Branch Chief

COPY

February 8, 2013

Carpenter Technology Corporation
c/o Sean McGowan
105 West Bern Street
Redding, Pennsylvania 19612

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Re: Supplemental Comments on Notice of Incomplete Voluntary Remediation Program Application, and on March 30, 2012, Response to EPD Comments, and on March 2012 Semiannual Report
General Time Corporation, HSI Site No. 10355
100 Newton Bridge Road, Athens, Georgia; Clarke County
Tax Parcel ID No. 112 003

Dear Mr. McGowan:

The Georgia Environmental Protection Division (EPD) has reviewed the March 23, 2012, Voluntary Investigation and Remediation Plan (VIRP), submitted pursuant to the Georgia Voluntary Remediation Program Act (the Act) as an application for the site's entry into the Voluntary Remediation Program (VRP). In conjunction with review of the VIRP, we have also reviewed the March 30, 2012, Response to EPD Comments, and the March 2012 semiannual report.

EPD sent a Notice of Incomplete VRP Application, dated February 8, 2013, to Carpenter Technology Corporation under separate cover. That notice letter explains why the VRP application was deemed incomplete. In this letter we are providing supplemental comments, that will need to be addressed at some point in the VIRP process.

Cleanup Standards:

EPD is providing the following comments based upon the Risk Reduction Standard (RRS) values and calculations presented in the March 30, 2012, Response to EPD Comments. The constituents of concern (COCs) upon which we base our comments are trichloroethylene (TCE), cis-1,2-dichloroethylene (DCE), and trans-1,2-DCE. EPD would like responses to our current RRS comments to be incorporated into a revised VIRP.

- 1) Please note that soil Type 2 calculations must also include an evaluation of the potential leachability to groundwater (see section 391-3-19-.07(7)(c)1 of the Rules for Hazardous Sites Response). Soil concentrations that will be protective of underlying groundwater should be calculated using an EPA-recognized or otherwise peer-reviewed vadose-zone model. The Soil Screening Level (SSL) Partitioning Equation for Migration to Groundwater (Equation 10 from the US EPA *Soil Screening Guidance: User's Guide*, 1996) is one such model that would be acceptable to EPD. However, Equation 10 assumes that groundwater beneath impacted vadose-zone soil is initially clean. Accordingly, if Equation 10 is being used, EPD requires that the target leachate

concentration (C_w) be calculated differently when contaminants are already present in groundwater. Specifically:

- When groundwater on site is clean, $C_w = C_f \times \text{DAF}$, where C_f is the applicable groundwater RRS
- When groundwater on site is impacted above C_f , $C_w = C_f$, which is identical to having a dilution attenuation factor (DAF) of 1
- When groundwater on site is impacted below C_f ,

$$C_w = \left(1 + \frac{K_i d}{L I}\right) C_f - \left(\frac{K_i d}{L I}\right) C_i, \text{ where}$$

Parameter	Definition	Units
C_w	target leachate concentration	mg/L
C_f	acceptable groundwater concentration	mg/L
C_i	maximum groundwater concentration	mg/L
K	hydraulic conductivity	ft/yr
i	hydraulic gradient	unitless
I	infiltration rate (groundwater recharge rate)	ft/yr
d	mixing zone depth (see Equation 4)	ft
L	source length parallel to groundwater flow	ft

Please provide groundwater leachability values for review. The lower of the leachability and human health risk value will determine the overall soil Type 2 RRS.

- The values in the table provided in response to comment 6 are incorrect for trans-1,2-DCE and TCE. The reason for this discrepancy is that the volatilization factors (VF) used in the RAGS equations 6 and 7 are incorrect (see comment 7 below). The table will also need to incorporate the derived leachability values. Please revise.
- The method by which the VF values were derived was correct, but the overall VF values were incorrect due to an incorrect soil organic carbon fraction (f_{oc}) value. The correct value for f_{oc} is 0.02 (see Appendix III, Table 3 of the Rules). Please revise the VF values, and incorporate the correct VF terms in the soil RAGS equations 6 and 7. Please revise the human health risk-based values for soils.

When calculating RRS values, please obtain toxicity factors from the latest version of the EPS Region 3 screening levels generic Summary table. Where necessary, obtain input values for specific physical and chemical properties of a substance from the EPA Region 3 generic Chemical Specific Parameters table. Both tables can be accessed on the Internet at:

http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/Generic_Tables/index.htm

Miscellaneous:

- 4) Please revise all figures to include property lines and Parcel Tax Identification Numbers.
- 5) Without historical analytical data, it is difficult for EPD to analyze historical groundwater-concentration trends on site. In future submittals, please include a table listing historical groundwater analytical data for all sampling points. The included time span should be from as far back as data is available through the most recent sampling event.

At some point in the VRP process, Carpenter Technology Corporation will need to address these comments to EPD's satisfaction in order to demonstrate compliance with the provisions, purposes, standards, and policies of the Act. EPD may, at its sole discretion, review and comment on documents submitted by Carpenter Technology Corporation. However, failure of EPD to respond to a submittal within any timeframe does not relieve Carpenter Technology Corporation from complying with the provisions, purposes, standards, and policies of the Act.

If you have any questions, please contact Allan Nix at (404) 657-8600.

Sincerely,



David Brownlee
Unit Coordinator
Response and Remediation Program

c: Mark Miesfeldt, Haley & Aldrich

File: HSI No. 10355